



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,231	01/20/2004	Gary Michael Everingham	2003P00590US01	6454

7590

12/15/2005

Siemens Corporation
Intellectual Property Department
170 Wood Avenue South
Iselin, NJ 08830

EXAMINER

FRISTOE JR, JOHN K

ART UNIT	PAPER NUMBER
----------	--------------

3751

DATE MAILED: 12/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/759,231

Applicant(s)

EVERINGHAM ET AL.

Examiner

John K. Fristoe Jr.

Art Unit

3751

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicants' arguments with respect to claims 9-24 have been considered but are moot in view of the new ground(s) of rejection. Applicants' arguments with respect to claim 1-8 have been considered but are not considered persuasive. Applicants' argue that Miyake et al. does not disclose a failsafe, which was added to the claims in Applicants' amendment to the claims, the examiner disagrees. It appears to the examiner that the "failsafe" claimed in claim 1, 25, and 26 is the same structure as the spring that was previously claimed and remains in the claim. By including the same structure in the claim twice it renders theses claim indefinite. Miyake et al. does include a spring (11). Applicants' also argue that Miyake et al. does not include a second cup to retain the spring, the examiner agrees. However this has been addressed by a new prior art rejection. Since any changes to the following prior art rejections were necessitated by Applicants' amendment the following Office action has been made Final.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-8, 25 and 26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It appears to the examiner that the "failsafe" within the claims is the same structure as the "spring" which was previously recited. By reciting the same structure twice it renders the claim indefinite.

Art Unit: 3751

4. Claims 17 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It appears to the examiner that the “flange” recited in claim 17 is the same structure as the “first cup” recited in claim 9. By reciting the same structure twice renders the claim indefinite.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 3, and 5-7 as far as they are definite, are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Pat. No. 5,680,880 (Miyake et al.). Miyake et al. disclose an exhaust gas recirculation (EGR) valve comprising a base (1), a first port (1b), a second port (1b), a valve disc member (3), a valve shaft (4) having a first end fixed to the valve member (3), a linear actuator (41), a rotary motor (12), a valve spring (11) that is linear, a rotor (34), a valve disc member (3) and a valve seat (2) comprise a pintle valve, a flange (7), wherein the second end of the actuator shaft (41) is disc shaped (a cross section of the end of the shaft that is closest to the valve shaft would be the shape of a disc in figure 1), wherein when the valve disc member (3) is in the open position the actuator shaft (41) is in contact with valve shaft (4), wherein when the valve disc member (3) is in the closed position the actuator shaft (41) is not in contact with the valve shaft (4), and wherein the spring (11) is between the actuator (41) and valve disc member (3).

Art Unit: 3751

7. Claims 9, 11, 13-16, 19, and 24 as well as 17, 18, 25, and 26 as far as they are definite, are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Pat. No. 5,769,390 (Ando). Ando discloses an exhaust gas recirculation valve comprising a base (11), a fluid conduit (12) between a first port (12a) and a second port (col. 3, lines 9-10), a valve member (17) that is a pintle valve, a valve shaft (18), a linear actuator comprising a rotary motor (42), a device having an actuator shaft (51), a linear spring (21), a first cup (23), a second cup (29), wherein an end of the actuator shaft (51) is disc shaped (the end of the shaft 52 is circular and therefore is "disc-shaped"), wherein the actuator shaft (51) abuts the valve shaft (18) in one position, wherein the actuator shaft (51) is spaced (space D) from the valve shaft (18) in a second position, a valve seat (15) and a bracket (41).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 2 and 4 as far as they are definite, are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 5,680,880 (Miyake et al.) in view of U.S. Pat. No. 5,941,500 (Lebkuchner). Miyake et al. disclose the above described EGR valve comprising a base (1), a valve disc member (3), a rotary motor (12), a valve shaft (4), a linear actuator (41), and a valve spring (11) but lacks the rotary motor being a synchronous motor and the second end of the valve shaft being curved. Lebkuchner teaches a valve assembly having rotary synchronous (col. 5,

Art Unit: 3751

lines 33-36) motor (58), a linear actuator (72), a valve shaft (48), wherein the valve shaft (48) has curved end portion (figure 5), a valve disc member (50), and a valve seat (38).

Regarding the rotary motor, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the EGR valve having a rotary motor of Miyake et al. by replacing the rotary motor with a rotary synchronous motor as taught by Lebkuchner in order for the motor to turn the actuator at a constant speed which reduced the effect on the flow of the fluid caused by the pressure differential between the two ports as the valve opens and closes.

Regarding the valve shaft having a curved end, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the EGR valve having a valve shaft with a flat end of Miyake et al. by machining the end of the valve shaft into a curve as taught by Lebkuchner in order to reduce the wear between the contact surface of the valve shaft and the actuator shaft.

10. Claims 8 as far as it is definite is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 5,680,880 (Miyake et al.) in view of U.S. Pat. No. 6,497,225 (Bircann et al.). Miyake et al. disclose the above described EGR valve comprising a base (1), a valve disc member (3), a rotary motor (12), a valve shaft (4), a linear actuator (41), and a valve spring (11) but lacks a bracket having a first end secured to the base and a second end secured to the motor and the spring between the first and second end. Bircann et al. disclose an EGR valve comprising a motor (42), a base (10), a valve disc (26), a valve seat (18), a valve shaft (14), a spring (38), and a bracket (the portion between the actuator 42 and the base 10 in figure 2) having a first end (the portion connected to base 10 in figure 2) and a second end (the portion

Art Unit: 3751

connected to actuator 42 in figure 2), and the spring (38) is between the first and second end. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the EGR valve having a spring below the bracket of Miyake et al. by extending the bracket so that the spring is above the first end of the bracket as taught by Bircann et al. in order to remove the spring from heated fluid which passes through the valve which may render the spring inoperable.

11. Claims 10, 12, and 20-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 5,769,390 (Ando) in view of U.S. Pat. No. 5,941,500 (Lebkuchner). Ando discloses an exhaust gas recirculation valve comprising a base (11), a fluid conduit (12) between a first port (12a) and a second port (col. 3, lines 9-10), a valve member (17) that is a pintle valve, a valve shaft (18), a linear actuator comprising a rotary motor (42), a device having an actuator shaft (51), a linear spring (21), a first cup (23), a second cup (29), wherein an the end of the actuator shaft (51) is disc shaped (the end of the shaft 52 is circular and therefore is "disc-shaped"), wherein the actuator shaft (51) abuts the valve shaft (18) in one position, wherein the actuator shaft (51) is spaced (space D) from the valve shaft (18) in a second position, and a valve seat (15) but lacks the rotary motor being a synchronous motor and the second end of the valve shaft being curved. Lebkuchner teaches a valve assembly having rotary synchronous (col. 5, lines 33-36) motor (58), a linear actuator (72), a valve shaft (48), wherein the valve shaft (48) has curved end portion (figure 5), a valve disc member (50), a valve seat (38), and wherein the cross section of the linear actuator (72) is greater than the cross section of the valve shaft (48).

Regarding the rotary motor, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the EGR valve having a rotary motor of Ando by

Art Unit: 3751

replacing the rotary motor with a rotary synchronous motor as taught by Lebkuchner in order for the motor to turn the actuator at a constant speed which reduced the effect on the flow of the fluid caused by the pressure differential between the two ports as the valve opens and closes.

Regarding the valve shaft having a curved end, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the EGR valve having a valve shaft with a flat end of Ando by machining the end of the valve shaft into a curve as taught by Lebkuchner in order to reduce the wear between the contact surface of the valve shaft and the actuator shaft.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

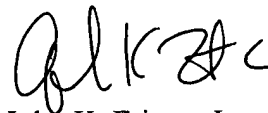
Art Unit: 3751

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John K. Fristoe Jr. whose telephone number is (571) 272-4926.

The examiner can normally be reached on Monday-Friday, 7: 00 a.m-4: 30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Justine R. Yu can be reached on (571) 272-4835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John K. Fristoe Jr.
Examiner
Art Unit 3751

JKF



EDWARD K. LOOK
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700

12/9/05